AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) ~~Device able to generate~~ A device for generating intense and brief magnetic pressure variations, predetermined and controlled, able to be isentropic inside a sample (23) made of a solid material, comprising:

~~characterised in that it includes~~ means (2, 3) for generating current pulses of the pulsed high power type; and

an electromagnetic cell (1) connected to the electric current pulse generating means (2, 3), ~~this~~

said electromagnetic cell (1) bearing the sample (23) and being adapted so as to have the sample (23) subjected to electromagnetic energy pulses resulting from the application to the electromagnetic cell (1) of electric current pulses originating from the electric current pulse generating means (2, 3), ~~in that~~

wherein the electromagnetic cell (1) includes a parallel flat line made of a conductive material including two branches (4, 5) with the shape of planar plates having the same shapes and dimensions and separated from each other by a distance less than or equal to 3mm, one of said branches (4) bearing the sample (23) fixed rigidly to this branch (4), these two branches

(4, 5) being electrically connected to each other by an end junction strip (7) and electrically connected opposite the end junction strip (7) to the electric current pulse generating means (2, 3) so as to allow an electric current to be established circulating from the electric current pulse generating means (2, 3) in one branch (4) and then into the end strip (7) and then into the other branch (5) so as to come back to the electric current pulse generating means (2, 3), and ~~in that~~

wherein the electric current pulse generating means (2, 3) and the electromagnetic cell (1) are adapted so that the build-up time τ in which the square of the intensity of the electric current circulating in the electromagnetic cell (1) moves from 10% to 90% of its maximum value I_{max}^2, namely between 1ns and 500ns.

2. (original) Device according to claim 1, characterised in that the electromagnetic cell (1) is adapted to have an inductance of less than 4nH.

3. (previously presented) Device according to claim 1, characterised in that the two branches (4, 5) are isolated from each other by a dielectric material (6).

4. (original) Device according to claim 3, characterised in that the dielectric material (6) is solid or solid/liquid.

5. (previously presented) Device according to claim 3, characterised in that the dielectric material (6) has a pulse

dielectric rigidity of more than 100 kV/mm.

6. (previously presented) Device according to claim 3, characterised in that the dielectric material (6) extends laterally beyond the branches (4, 5) so as to prevent any edge disruptive breakdowns.

7. (previously presented) Device according to claim 3, characterised in that the dielectric material (6) is selected from a polyimide, a polyester or a high density polyethylene.

8. (previously presented) Device according to claim 3, characterised in that the distance between the two branches (4, 5) is less than 1mm.

9. (previously presented) Device according to claim 3, characterised in that the electromagnetic cell (1) is adapted to have an inductance of less than 2nH.

10. (currently amended) Device according to claim 1, characterised in that the electric current pulse generating means (2, 3) comprise:

- at least one pulsed high power electric current generator (2) including two outgoing electrodes (12, 13) known as first (12) and second (13) outgoing electrodes,
- an electric linking line (3) including a first conductive plate (10) extending between the first outgoing electrode (12) of reach generator (2) and one (4) of the branches of the electromagnetic cell (1), and a second conductive plate (11) extending between the second outgoing electrode (13) and the

other branch (5) of the electromagnetic cell (1)[[,]].

11. (original) Device according to claim 10, characterised in that the cross section of the junction strip (7) perpendicular to the direction of the electric current is smaller than the cumulated cross section of the first (12) or second (13) electrodes so that the electric current density reaches its maximum value in the junction strip (7).

12. (original) Device according to claim 11, characterised in that the width of the junction strip (7) is smaller than the cumulated width of the first (12) or second (13) electrodes.

13. (currently amended) Device according to claim 11, ~~characterised in that~~ wherein the two branches (4, 5) are rectangular,

the junction strip (7) ~~connecting~~ connects two rectilinear edges (8, 9) of the two branches (4, 5), and ~~in that~~

the plates (10, 11) of the electric linking line (3) have a convergent shape concerning its width and/or thickness so that the current density has its maximum value in the branches (4, 5) of the electromagnetic cell (1).

14. (previously presented) Device according to claim 10, characterised in that the plates (10, 11) of the linking line (3) have overall the same shapes and dimensions, are parallel to each other and are superimposed opposite each other, separated and isolated from each other.

15. (previously presented) Device according to claim 10, characterised in that the plates (10, 11) of the linking line (3) extend into the prolongation of the branches (4, 5) of the electromagnetic cell (1).

16. (previously presented) Device according to claim 10, characterised in that the linking line (3) is adapted so as to have an inductance of less than 5nH.

17. (previously presented) Device according to claim 1, characterised in that the electric current pulse generating means (2, 3) include at least one multichannel spark switch (15, 31) able to distribute the electric energy along the cross section of the branches (4, 5) of the electromagnetic cell (1).

18. (previously presented) Device according to claim 10, characterised in that a multichannel spark switch (15, 31) is inserted between each generator (2) and the electromagnetic cell (1).

19. (original) Device according to claim 18, characterised in that for each generator (2) an individual multichannel spark switch (15, 31) is inserted between the first outgoing electrode (12) of this generator (2) and the first plate (10) of the linking line (3).

20. (previously presented) Device according to claim 17, characterised in that it includes at least one set of several generators (2) and in that a common multichannel spark switch (15) is inserted between all the first electrodes (12) of the

generators (2) of the same set and the first plate (10) of the linking line (3).

21. (previously presented) Device according to claim 17, characterised in that it includes at least one series multi-gap spark switch (15, 31).

22. (previously presented) Device according to claim 17, characterised in that it includes several spark switches (15, 31) in parallel.

23. (previously presented) Device according to claim 1, characterised in that the sample (23) is placed and rigidly fixed in a housing of the branch (4) bearing it.

24. (original) Device according to claim 23, characterised in that the housing opens on the side of the space separating the two branches (4, 5) from each other so that a sample (23) made of a conductive material can be placed in the housing so as to be in electric liaison with the branch (4) bearing it, this sample (23) having one face in contact with the space separating the two branches (4, 5) from each other, especially in contact with the dielectric material (6).

25. (original) Device according to claim 23, characterised in that the housing has a bottom (24) forming a conductive wall able to separate a sample (23) or material made of a conductive material or one made of a poor conductive material placed in the housing from the space separating the two branches (4, 5) from each other, especially from the dielectric

material (6).

26. (original) Device according to claim 25, characterised in that the conductive wall (2, 4) has a thickness smaller than that of the branch (4) bearing it.

27. (previously presented) Device according to claim 1, characterised in that it includes means (33, 34) for adjusting the value of the inductance of the electromagnetic cell (1) and/or of the electric current pulse generating means (2, 3).

28. (previously presented) Device according to claim 1, characterised in that it includes means (33, 34) for adjusting the distance (e) between the two branches (4, 5).

29. (previously presented) Device according to claim 1, characterised in that it comprises means (32) for analysing the mechanical behaviour of the sample (23), especially via laser Doppler interferometry.

30. (previously presented) Method to generate intense and brief magnetic pressure variations, predetermined and controlled, able to be isentropic inside a sample (23) made of a solid material, characterised in that the sample (23) is rigidly secured to a branch (4) of an electromagnetic cell (1) of a device according to claim 1, and electric current pulse generating means (2, 3) are switched so as to result in the electromagnetic cell (1) the setting up of an electric current able to generate magnetic pressure forces inside the sample (23), the build-up time τ of the square of the intensity of the

electric current being between 1ns and 500ns.

AMENDMENTS TO THE DRAWINGS:

The replacement sheet in the Appendix includes changes to Figure 1. In Figure 1, the previously omitted text describing elements 2, 19 and 32 has been added.